

DRYING

UTILE

Family: MELIACEAE (angiosperm)

Scientific name(s): Entandrophragma utile Commercial restriction: no commercial restriction

WOOD DESCRIPTION

Color: red brown

- Sapwood: clearly demarcated
- Texture: medium
 - Grain: interlocked

Interlocked grain: slight

Note: Some logs are not floatable.

Wood pinkish brown to red brown slightly purplish, with moiré shades. Ribbon like aspect on quartersawn. Irregular grain.

LOG DESCRIPTION

PHYSICAL PROPERTIES

MECHANICAL AND ACOUSTIC PROPERTIES

Log durability: moderate (treatment recommended)

Diameter: from 60 to 120 cm

Thickness of sapwood: from 2 to 6 cm

Floats: yes

Physical and mechanical properties are based on mature heartwood specimens. These properties can vary greatly depending on origin and growth conditions.

	Mean	Std dev.		Mean	Std dev.	
Specific gravity *:	0.62	0.04	Crushing strength *:	56 MPa	6 MPa	
Monnin hardness *:	3.0	0.4	Static bending strength *:	91 MPa	11 MPa	
Coeff. of volumetric shrinkage:	0.42 %	0.06 %	Modulus of elasticity *:	13240 MPa	2547 MPa	
Total tangential shrinkage (TS):	6.4 %	0.7 %				
Total radial shrinkage (RS):	4.6 %	0.7 %	(*: at 12% moisture content, with 1 MPa = 1 N/mm ²)			
TS/RS ratio:	1.4					
Fiber saturation point:	30 %		Musical quality factor:	112.6 measure	d at 2663 Hz	
Stability:	moderately stable to	stable				
Note:	e: Hardness varies from soft to fairly hard.					

NATURAL DURABILITY AND TREATABILITY

Fungi and termite resistance refers to end-uses under temperate climate. Except for special comments on sapwood, natural durability is based on mature heartwood. Sapwood must always be considered as non-durable against wood degrading agents. E.N. = Euro Norm

Fungi (according to E.N. standards):	class 2-3 - durable to moderately durable
Dry wood borers:	class D - durable (sapwood demarcated, risk limited to sapwood)
Termites (according to E.N. standards):	class M - moderately durable
Treatability (according to E.N. standards):	class 4 - not permeable
Use class ensured by natural durability:	class 3 - not in ground contact, outside
Species covering the use class 5:	no
Note:	This species is listed in the European standard NF EN 350-2. The French standard NF P 23-305 (December 2014) indicates that this species covers the use class
	3.2 for untreated heartwood.

REQUIREMENT OF A PRESERVATIVE TREATMENT

Against dry wood borer attacks: does not require any preservative treatment In case of risk of temporary humidification: requires appropriate preservative treatment

In case of risk of permanent humidification: use not recommended

POSSIBLE DRYING SCHEDULE

Drving rate:	normal	Temperature (°C)			
Risk of distortion:	slight risk	M.C. (%)	dry-bulb	wet-bulb	Air humidity (%)
Pisk of casebardening:	po	Green	50	47	84
Risk of caseliardering.		40	50	45	75
RISK OF CHECKING:	Slight fisk	30	55	47	67
Risk of collapse:	no	20	70	55	47
Note:	The risks of distortion increase in presence of highly interlocked grain especially during kiln drying. Original shakes tend to extend.	15	75	58	44

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UTILE



This drying schedule is given for information only and is applicable to thickness lower or equal to 38 mm. It must be used in compliance with the code of practice.

For thickness from 38 to 75 mm, the air relative humidity should be increased by 5 % at each step. For thickness over 75 mm, a 10 % increase should be considered.

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SAWING AND MACHINING

Blunting effect: normal

Sawteeth recommended: ordinary or alloy steel

Cutting tools: ordinary

Peeling: good

Slicing: good

Note: Tendency to tearing due to interlocked grain.

ASSEMBLING

Nailing / screwing: good

Gluing: correct

Note: Gluing requires care: it can stain wood.

COMMERCIAL GRADING

Appearance grading for sawn timbers: According to SATA grading rules (1996) For the "General Purpose Market": Possible grading for square edged timbers: choix I, choix II, choix II, choix IV Possible grading for short length lumbers: choix I, choix II Possible grading for short length rafters: choix I, choix II For the "Special Market": Possible grading for strips and small boards (ou battens): choix I, choix II, choix III Possible grading for rafters: choix I, choix II, choix II, choix II, choix III

FIRE SAFETY

Conventional French grading: Thickness > 14 mm : M3 (moderately inflammable) Thickness < 14 mm : M4 (easily inflammable) Euroclasses grading: D s2 d0 Default grading for solid wood, according to requirements of European standard EN 14081-1 annex C (April 2009). It concerns structural graded timber in vertical uses with mean density upper 0.35 and thickness upper 22 mm.

END-USES

Sliced veneer Cabinetwork (high class furniture) Interior joinery Veneer for back or face of plywood Open boats Stairs (inside) Light carpentry Current furniture or furniture components Exterior joinery Interior panelling Moulding Flooring Rolling shutters Glued laminated

Note: Filling is recommended in order to obtain a better finish.



This list presents main known end-uses; they must be implemented according to the code of practice. Important remark: some end-uses are mentioned for information (traditional, regional or ancient end-uses).

MAIN LOCAL NAMES

Country	Local name	Country	Local name
Angola	KALUNGI	Cameroon	ASSENG-ASSIÉ
Congo	KALUNGI	Ivory Coast	SIPO
Gabon	ASSI	Ghana	UTILE
Equatorial Guinea	ABEBAY	Nigeria	UTILE
Uganda	MUFUMBI	Central African Republic	BOKOI
Democratic Republic of the Congo	KALUNGI	Democratic Republic of the Congo	LIBOYO
Germany	SIPO-MAHOGANY	United Kingdom	UTILE

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